lower in the PMT arm (1.2%) than the ADJ arm (9.45%) ($P < 0.0001$). In ER negative tumours there was no significant difference between the PMT (12.3%) and ADJ (16.1%) arms ($P = 0.25$). These differences indicate that proliferation is reduced following chemo-hormonal therapy but that the effect is largely confined to ER positive tumours. Although the cross sectional nature of the study precludes firm conclusions these data suggest the possibility that in ER negative tumours chemotherapy induced response may be mediated by other processes such as apoptosis. We are currently testing this hypothesis in a prospective longitudinal study.

688 PUBLICATION

FNA CYTOLOGY IN RELATIONSHIP TO CLINICAL EXAMINATION IN THE DIAGNOSIS OF BREAST CANCER

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In our study we have examined the accuracy of FNA cytodiagnosis in conjunction with clinical diagnosis, in order to attempt to identify patients with primary breast cancer who may be suitable for neoadjuvant therapy without surgical biopsy. A total of 358 patients presented with a palpable breast lump are included in the study. A preliminary diagnosis of clinically benign, suspicious or malignant was made. FNA was performed in 342 patients and the specimens were classified as: benign, suspicious, malignant and inadequate (9%). The accuracy of each assessment was calculated. A positive test in a patient with benign disease was considered a false positive result. FNA cytodiagnosis of definite carcinoma was obtained in 86% of women with breast cancer. Clinical examination by an experienced breast physician together with FNAC detected 99% of the cancers with a 10.4% false positive rate. These results indicate that surgical biopsy rate for diagnosis of breast cancer would be halved if only those patients with suspicious clinical examination or suspicious cytology underwent surgery.

689 PUBLICATION

SUPER HIGH FREQUENCY (SHF) RADIOTHERMOMETRY FOR EARLY DIAGNOSIS OF BREAST CANCER

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SHF radiothermometry permits to measure temperature distributions in tissues, penetration depth to 20 cm. 1026 pts were involved in the study. Temperature asymmetry (TA)—an absolute examination criterion of pathology—was detected in 12.5%. All the pts have undergone mammography and needle biopsy. A 1.5 – 0.5°C increase and 0.1–0.3°C decrease in temperature was observed in pts with malignant and benign tumors respectively. When there was no TA, histopathological examination showed fibroid tissue without cell proliferation. When TA was present, high proliferation activity was detected. SHF radiothermometry permits to diagnose a benign tumor and to evaluate the grade of proliferation in case of dishormonal hyperplasia in 98.5% and 96.4% cases respectively. So SHF radiothermometry is a simple and secure method for early diagnosis of breast cancer.

690 PUBLICATION

PROGNOSTIC SIGNIFICANCE OF ESTROGEN RECEPTORS IN 405 PRIMARY BREAST CANCERS (B.C.): A COMPARISON OF IMMUNOHISTOCHEMICAL (ICA) AND BIOCHEMICAL (DCC) METHODS

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ER were determined on 405 primary b.c. by both biochemical and immunoistochemical methods. The aim of this study was to evaluate if one of the two methods is more predictive of prognosis. We considered ERDCC+ if $\geqslant$10 f mol/mg and ERICA+ if $\geqslant$45% of cells were stained. Product-limit method and Cox's proportional hazard model were used for the statistical analysis. The median follow-up was 40 months (range 4–95); 98 pts relapsed and 48 died. There is a close association between ERICA and ERDCC (concordance: 81.5%). ERICA status was significantly associated with both DFS and OS (higher in ERICA+); ERDCC status was significantly associated only with OS (higher in ERDCC+). Similar results were obtained when adjustments for the effect of other prognostic variables (pT, pN, age) were considered. A comparison of DFS and OS when ERICA and ERDCC status were jointly evaluated showed that these methods gave quite similar information on prognosis, so that it is possible to use only one technique.

691 PUBLICATION

AN EVALUATION OF DNA POLYMERASE α AS A PROGNOSTIC PREDICTOR IN EARLY BREAST CANCER WITH TUMORS SMALLER THAN 2 CM

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We examined the relationship between proliferative activity determined by DNA polymerase α and clinicopathologic variables in breast cancer patients, and evaluated the usefulness of DNA polymerase α as a prognostic predictor in 337 early breast cancers with tumors smaller than 2 cm, which had favorable prognoses. About 60% of tumors had lower proliferative activity. A significant correlation was found between DNA polymerase α and ER, PgR, histological type, or the degree of infiltration into lymphatic vessels which reflect the prognosis. Cancers with higher DNA polymerase α activity were associated with shorter disease-free and overall survival times. In a multivariate analysis the DNA polymerase α was found to be an independent and significant factor in early breast cancer.

692 PUBLICATION

RELATIONSHIP BETWEEN DNA PLOIDY AND DISEASE-FREE SURVIVAL IN NODE-NEGATIVE BREAST CANCER PATIENTS

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Aim of the study is to evaluate prognostic value of DNA ploidy in the group of 106 pts with intraductal invasive adenocarcinoma in stage pT1–2 NO MO and with the Bloom grade II. All pts have been treated by surgery alone. Follow-up was at least 10 years (10–24). Clinical material was subdivided into 2 groups: A-without, B-with dissemination. DNA content was measured by image cytometry. There were 4 types of ploidy: diploidy and low, medium and high grade of aneuploidy. There were significantly higher rate of diploid tumours in the group A (83% vs 17%) and aneuploid tumours in the group B (67% vs 33%). The risk of dissemination was 17% for diploid and 54%, 74%, 100% respectively for aneuploid ones. Among patients with diploidy 83% had 10-years DFS, while nobody from the group of high grade of aneuploidy survive 10 years.

The results suggest that high grade aneuploidy is a significant risk factor for dissemination in node-negative breast cancer patients.

693 PUBLICATION

CORRELATION BETWEEN PCNA AND FIRST GENERATION MARKERS IN BREAST CANCER PROGNOSIS

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In order to estimate the prognosis of the breast cancer patients, the histologic differentiation, nuclear grade and immunohistochemical assay for proliferating cell nuclear antigen (PCNA) were determined.

The study was randomly done on breast cancer patients in all clinical stages and estimates the correlation between classical histological data with the proliferation activity of the same tumor. The scale of anti-PCNA was between 0–3. In addition, all these parameters were compared, in a multivariate analysis with clinical stage, tumoral volume and axillary lymph node status.

Our results demonstrates that such evaluations might be useful in predicting the risk of progression especially in axillary node-negative (ANN) patients.